



[7590-01-P]

## **NUCLEAR REGULATORY COMMISSION**

**[Docket Nos. 50-387 and 50-388; NRC-2012-0306]**

**Susquehanna Steam Electric Station, Units 1 and 2**

**PPL Susquehanna, LLC**

### **Exemption**

#### **1.0 BACKGROUND**

PPL Susquehanna, LLC (the licensee) is the holder of Renewed Facility Operating License Nos. NPF-14 and NPF-22, which authorizes operation of the Susquehanna Steam Electric Station (SSES), Units 1 and 2. The license provides, among other things, that the facility is subject to all rules, regulations, and orders of the Nuclear Regulatory Commission (NRC, the Commission) now or hereafter in effect. The facility consists of two boiling-water reactors located in Salem Township in Luzerne County, Pennsylvania.

#### **2.0 REQUEST/ACTION**

Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR), Appendix E, Section IV.F.2.b requires that “[e]ach licensee at each site shall conduct an exercise of its onsite emergency plan every 2 years. \* \* \* ” By letters dated October 25, November 16, and November 29, 2012,<sup>1</sup> the licensee requested a temporary one-time exemption from this requirement that would allow postponing the onsite portion of the biennial emergency preparedness (EP) exercise from October 23, 2012, to February 26, 2013.

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<sup>1</sup> Agencywide Documents Access and Management System Accession Nos. ML12300A108, ML12324A249, and ML123350107, respectively.



The licensee stated that an exemption is being requested due to an unplanned Unit 1 outage necessary due to fatigue cracking experienced on the Unit 1 turbine blades described herein. On October 3, 2012, SSES received a recommendation from its low pressure (LP) turbine supplier to remove the Unit 1 Main Turbine from service to perform LP turbine end blade root inspections. The licensee subsequently reduced reactor power on Units 1 and 2 to minimize blade tip vibration and allow additional time for outage planning. The licensee removed Unit 1 from service on October 20, 2012. According to the licensee, the Unit 1 shutdown affected the availability of a significant number of employees that would be required to support outage functions on a 24-hour basis, including an operating shift, as well as several key managers. Therefore, these personnel were unavailable to support the EP exercise on October 23, 2012.

The licensee further stated that it has made a good faith effort to comply with the regulation as indicated by the licensee's personnel supporting the Federal Emergency Management Agency (FEMA), the Commonwealth of Pennsylvania, and local agencies in the successful demonstration of the offsite portions of the SSES biennial exercise on October 23, 2012, with no deficiencies being identified by FEMA. All onsite positions that would provide communications to/from offsite agencies regarding emergency event classifications and protective action recommendations were staffed by licensee control cells at the emergency operations facility (EOF) to facilitate the offsite response. A licensee Recovery Manager also participated as a control cell to address communications with the Senior State Official. However, as a result of the licensee's participation in the offsite portion of the exercise, the scenario was compromised. To ensure exercise integrity, the licensee stated that it was developing and validating a new scenario, which would require the NRC review under 10 CFR Part 50, Appendix E, Section IV.F.2.b.

When the licensee submitted its letter dated November 16, 2012, Unit 1 had been restored to service and the licensee had determined, based on the results of the Unit 1 turbine blade



outage, that it was necessary to shutdown Unit 2 to conduct the same inspection. The licensee further stated that the estimated time needed to develop and validate a new scenario, as well as resources required in support of the Unit 2 outage, required that the onsite portion of a biennial EP exercise be rescheduled beyond calendar year 2012.

### 3.0 DISCUSSION

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50, Appendix E, when: (1) the exemptions are authorized by law, will not present an undue risk to public health or safety, and are consistent with the common defense and security; and (2) when special circumstances are present.

#### Authorized by Law

This exemption would allow the licensee to accommodate these impacts upon its resources by postponing the onsite portion of the exercise from the previously scheduled date of October 23, 2012, to February 26, 2013.

As stated above, 10 CFR 50.12 allows the NRC to grant exemptions from the requirements of 10 CFR Part 50, Appendix E. The NRC staff has determined that granting of the licensee's proposed exemption will not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, the exemption is authorized by law.

#### No Undue Risk to Public Health and Safety

The underlying purpose of 10 CFR Part 50, Appendix E, Section IV.F.2.b, requiring licensees to conduct a biennial EP exercise is to ensure that the licensee's emergency response organization (ERO) personnel are familiar with their duties and to test the adequacy of emergency



plans. In addition, 10 CFR Part 50, Appendix E, Section IV.F.2.b, also requires licensees to maintain adequate emergency response capabilities during the intervals between biennial exercises by conducting drills to exercise the principal functional areas of emergency response. In order to accommodate the scheduling of full participation exercises, the NRC has allowed licensees to schedule the exercises at any time during the calendar biennium. Conducting the remaining onsite portions of the SSES full participation exercise by February 26, 2013, rather than in calendar year 2012, places the exercise outside of the required biennium.

Since the last biennial EP exercise conducted on October 5, 2010, the licensee has conducted seven full-scale drills, which included activation of all of the licensee's emergency response facilities, and participation by the Commonwealth of Pennsylvania and local agencies. The licensee indicated that these full-scale drills exercised the functions of SSES's ERO to respond to an emergency scenario involving a radiological release, coordinate actions to mitigate the event, and coordinate actions and communications with the Commonwealth of Pennsylvania and risk county emergency management agencies. To further ensure that the licensee's ERO maintains a proper level of readiness to perform their duties since October 5, 2010, the licensee has also conducted 13 practice drills, involving the activation of the licensee's emergency response facilities but without offsite agencies participation, and a combination of 24 licensed operator scenarios or control room simulator table tops. In addition, the licensee has conducted extensive training for licensee ERO functions, offsite municipalities, county emergency responders, and various offsite emergency response personnel since the previous biennial exercise, as outlined in the licensee's letter dated October 25, 2012.

On August 23, 2011, the licensee demonstrated its response to an actual event resulting from the classification of a Notification of Unusual Event due to an earthquake that resulted in the staffing of the licensee's Technical Support Center.



The NRC staff considers the intent of the requirement of 10 CFR Part 50, Appendix E, Section IV.F.2.b met by having conducted these series of drills, training sessions, and actual event response. As such, no new accident precursors are created by allowing the licensee to postpone the onsite portion of the biennial EP exercise from the previously scheduled date of October 23, 2012, to February 26, 2013. Thus, the probability and consequences of postulated accidents are not increased. Therefore, there is no undue risk to public health and safety.

#### Consistent with Common Defense and Security

The proposed exemption would allow rescheduling of the onsite portion of the SSES biennial EP exercise from the previously scheduled date of October 23, 2012, to February 26, 2013. This change to the EP exercise schedule has no relation to security issues. Therefore, the common defense and security is not impacted by this exemption.

#### Special Circumstances

In order to grant exemptions in accordance with 10 CFR 50.12, special circumstances must be present. The special circumstances per 10 CFR 50.12 that apply to this exemption request are 10 CFR 50.12(a)(2)(ii) and (v).

Special circumstances, per 10 CFR 50.12(a)(2)(ii), are present when: “[a]pplication of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule.” The underlying purposes of 10 CFR Part 50, Appendix E, Section IV.F.2.b, requiring licensees to conduct a biennial EP exercise is to ensure that ERO personnel are familiar with their duties and to test the adequacy of emergency plans. Section IV.F.2.b of 10 CFR Part 50, Appendix E requires licensees at each site to conduct an exercise of onsite emergency plans biennially with full-participation by each offsite authority having a role under the plan. Since the licensee has: (1) conducted seven full-scale drills



involving offsite participation, 13 ERO (licensee only) practice drills, and a combination of 24 licensed operator scenarios or control room simulator table tops; (2) provided extensive training for licensee ERO functions, offsite municipalities, county emergency responders, various offsite emergency response personnel since the previous biennial exercise; (3) demonstrated ERO proficiency in response to the August 23, 2011, Notification of Unusual Event; and (4) supported the FEMA evaluation of the State and local authorities during the exercise held October 20, 2012, the NRC staff considers that these measures are adequate to maintain an acceptable level of emergency preparedness during the period of postponement from October 23, 2012, to February 26, 2013, satisfying the underlying purpose of the rule.

Under 10 CFR 50.12(a)(2)(v), special circumstances are present whenever the exemption would provide only temporary relief from the applicable regulation and the licensee or applicant has made good faith efforts to comply with the regulation. The licensee requested the offsite portion of the biennial EP exercise be postponed from October 23, 2012, to February 26, 2013, providing only temporary relief. The licensee has made a good faith effort to comply with the regulation as indicated by the licensee's personnel supporting the FEMA, the Commonwealth of Pennsylvania, and local agencies in the successful demonstration of the offsite portions of the SSES biennial exercise on October 23, 2012, with no deficiencies being identified by FEMA. All onsite positions that would provide communications to/from offsite agencies regarding emergency event classifications and protective action recommendations were staffed by licensee control cells at the EOF to facilitate the offsite response. A licensee Recovery Manager also participated as a control cell to address communications with the Senior State Official. The licensee had intended to conduct the onsite portion of the EP exercise on October 23, 2012, but requested to postpone it due to the turbine outage that was described above in Section 2.0. Also, as a result of the licensee's participation in the offsite portion of the exercise performed on October 23, 2012, the exercise scenario was compromised. To ensure exercise integrity, a new



scenario will need to be developed, validated and submitted to the NRC, and new ERO participants and controllers selected to participate in the onsite portion of the biennial exercise. The licensee stated that due to the unplanned turbine outages on Units 1 and 2, key personnel would not be available to complete the scenario modification activities and conduct the exercise prior to the end of calendar year 2012.

Therefore, since the licensee requested only temporary relief, made a good faith effort to comply, and the underlying purpose of 10 CFR Part 50, Appendix E, Section IV.F.2.b is achieved, the special circumstances required by 10 CFR 50.12 for the granting of an exemption exist.

#### 4.0 ENVIRONMENTAL CONSIDERATION

By letters dated October 25, November 16, and November 29, 2012, the licensee requested an exemption from the requirements in 10 CFR Part 50, Appendix E, Section IV.F.2.b with regards to conducting an exercise of onsite emergency plans biennially with full-participation, as discussed above. The NRC staff has determined that the proposed exemption meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(25). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment is required to be prepared in connection with the proposed issuance of the exemption. The basis for the NRC staff's determination is discussed below with an evaluation against each of the requirements in 10 CFR 51.22(c)(25).

##### Requirements in 10 CFR 51.22(c)(25)(i)

The NRC staff evaluated the issue of no significant hazards consideration, using the standards described in 10 CFR 50.92(c), as presented below:

1. Does the proposed exemption involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.



The proposed exemption is administrative in nature and relates solely to the scheduling requirements of the performance of an exercise of onsite emergency plans. The proposed exemption does not involve any physical plant modifications to SSES, Units 1 and 2. The proposed exemption would not alter the way any structure, system, or component (SSC) functions and would not alter the way SSES, Units 1 and 2 are operated. As such, the proposed exemption would have no impact on the ability of any SSCs to either prevent or mitigate any previously evaluated accidents as described in the SSES, Units 1 and 2 Updated Final Safety Analysis Reports. Therefore, the proposed exemption does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed exemption create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed exemption is administrative in nature and relates solely to the scheduling requirements of the performance of an exercise of onsite emergency plans. The proposed exemption does not involve any physical plant modifications to SSES, Units 1 and 2. The proposed exemption would not alter the way any SSC functions and would not alter the way SSES, Units 1 and 2 are operated. As such, the proposed exemption would not introduce any credible new failure mechanisms, malfunctions, or accident initiators not already considered in the design and licensing bases. Therefore, the proposed exemption does not create the possibility of a new or different kind of accident than any previously evaluated.

3. Does the proposed exemption involve a significant reduction in a margin of safety?

Response: No.

The margin of safety is associated with the confidence in the ability of the fission product barriers (i.e., fuel cladding, reactor coolant pressure boundary, and containment structure) to limit the level of radiation to the public. There are no physical plant modifications associated with the



proposed exemption. The proposed exemption would not alter the way any SSC functions and would not alter the way SSES, Units 1 and 2 are operated. The proposed exemption would not introduce any new uncertainties or change any existing uncertainties associated with any safety limit. The proposed exemption would have no impact on the structural integrity of the fuel cladding, reactor coolant pressure boundary, or containment structure. Based on the above considerations, the NRC staff concludes that the proposed exemption would not degrade the confidence in the ability of the fission product barriers to limit the level of radiation to the public. Therefore, the proposed exemption does not involve a significant reduction in a margin of safety.

Based on the above evaluation, the NRC staff concludes that no significant hazards consideration is involved for the proposed exemption (i.e., satisfies the provisions of 10 CFR 51.22(c)(25)(i)).

Requirements in 10 CFR 51.22(c)(25)(ii) through 10 CFR 51.22(c)(25)(vi)

The proposed exemption is administrative in nature and relates solely to the scheduling requirements of the performance of an exercise of onsite emergency plans. The proposed exemption does not involve any physical plant modifications to SSES, Units 1 and 2. The proposed exemption would not alter the way any SSC functions and would not alter the way SSES, Units 1 and 2 are operated. As such, the NRC staff concludes that granting the proposed exemption: (1) would not result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite (i.e., satisfies the provisions of 10 CFR 51.22(c)(25)(ii)); (2) would not result in a significant increase in individual or cumulative public or occupational radiation exposure (i.e., satisfies the provisions of 10 CFR 51.22(c)(25)(iii)); (3) would have no significant construction impact (i.e., satisfies the provisions of 10 CFR 51.22(c)(25)(iv)); and (4) would not result in a significant increase in the potential for or consequences from a radiological accident (i.e., satisfies the provisions of 10 CFR



51.22(c)(25)(v)). In addition, the requirements from which the proposed exemption is sought involve scheduling requirements, therefore satisfying the provisions of 10 CFR 51.22 (c)(25)(vi)(G).

#### Conclusion

Based on the above, the NRC staff concludes that the proposed exemption meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(25)(i) through 10 CFR 51.22(c)(25)(vi). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment is required to be prepared in connection with the proposed issuance of the exemption.

#### 5.0 CONCLUSION

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12, the exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. Also, special circumstances are present. Therefore, the Commission, hereby grants PPL Susquehanna, LLC an exemption from the requirements of 10 CFR Part 50, Appendix E, Section IV.F.2.b to conduct the onsite portion of the biennial EP exercise required for 2012, permitting that part of the exercise be conducted by February 26, 2013 for the Susquehanna Steam Electric Station, Units 1 and 2. This conclusion is based on the licensee's commitment to conduct the postponed exercise by February 26, 2013. As such, the calendar biennium will continue to be determined from the previous exercise date (i.e., the next evaluated exercise is expected to be performed in 2014).



This exemption is effective upon issuance.

Dated at Rockville, Maryland, this 14<sup>th</sup> day of December 2012.

FOR THE NUCLEAR REGULATORY COMMISSION

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